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could help materially in adding much from its superfluous stores as well as by bearing in mind the needs of the Museum, while in distant lands.

What is needed just now, is a definite plan toward the carrying out of which both those in charge and the community, once it understands the needs, may work. Above all do not get discouraged by the incompleteness of the present beginning, and remember that "a finished museum is a dead museum," and a dead museum is more useless than a dead horse.

S. Y. S.

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SARACEN INLAID METAL WORK

While much, and, indeed, much good, metal work is done now-a-days, one conspicuously beautiful branch of this craft has been strangely neglected. This is a method of inlaying and engraving practiced by the medieval Saracens and popularly, but erroneously, known as Damascening. It is in the hope of encouraging its revival that I wish to draw attention to the examples, few in number and unfortunately not of the finest quality, of this splendid art, in the Pennsylvania Museum. I will use some of these, however, as illustrations to a brief account of the history and technique of this process.

The art of inlaying metal in metal is of great antiquity; one need only recall the superb weapons of bronze from Mycenæ and Egypt, dating from between 2000 and 1000 B. C. to realize that the craft, of which they are such consummate examples, must be even more ancient than this remote time.

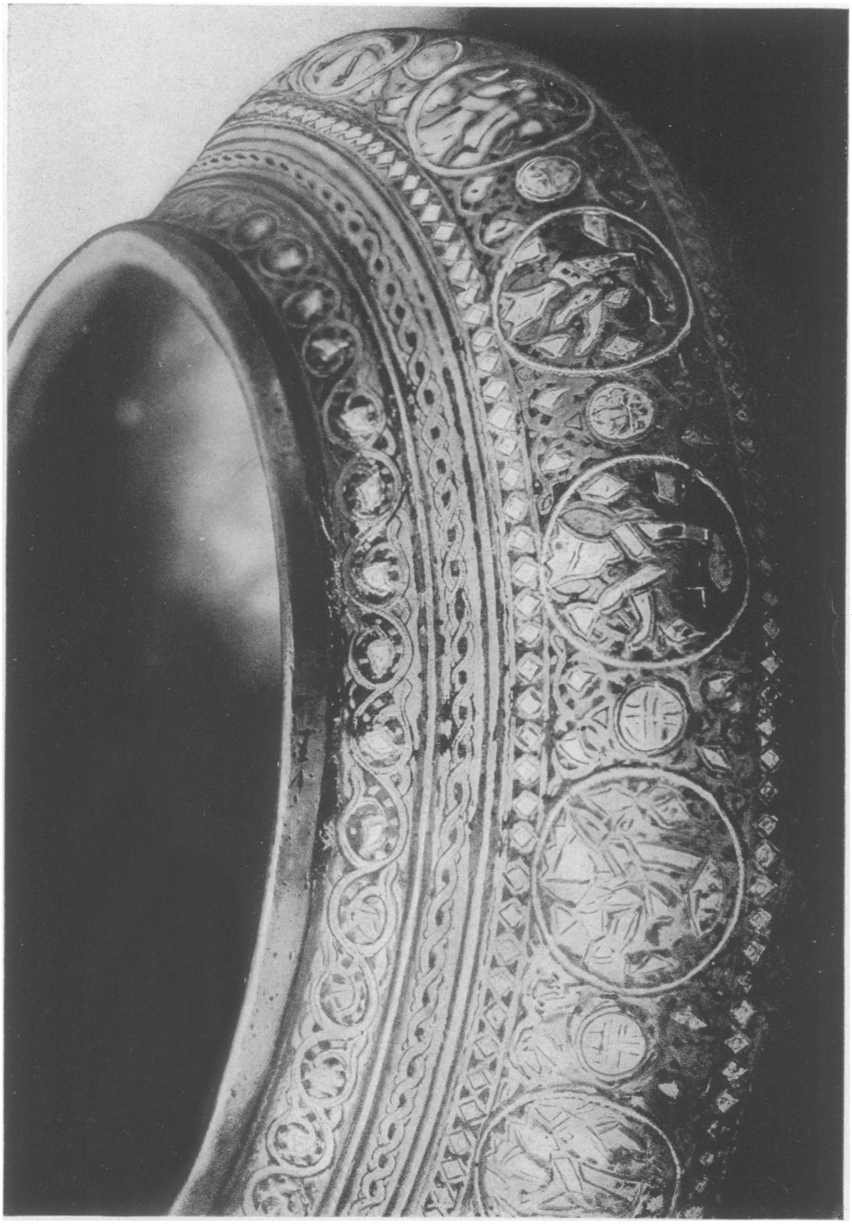
But the manifestation of it with which we are concerned is from two to three thousand years younger still.

In Mesopotamia in the twelfth or thirteenth centuries enough of the ancient tradition of this and many other arts had survived the iconoclastic deluge of the Moslem conquest (in about 625 A. D.) to respond to the stimulus provided by the overthrow of the Kalifate by the less bigotedly religious Turks. Under these last the steady growth of the more liberal of the two great Mohammedan Sects—the Shi'ite permitted the use of human and animal figures in the arts and the perennial skill in craftmanship of the Persian and Mesopotamian peoples revived.

The earliest examples of Saracen inlaid metal work known to us are from Mosūl on the upper Tigris. They are probably not earlier than the thirteenth century although one or two pieces in which this technique appears, sparingly employed, are dated 1159 and 1190 A. D. One of the most splendid examples is in the British Museum and is dated 1232 A. D. The finest work ceased to be made by the end of the fourteenth century.

The chief characteristic of the Mosūl style is the predominance of the figures of men and animals. The lavish use of silver for inlay is its most conspicuous feature, technically; gold is rarely if ever used, though red copper is, occasionally. The brass or copper base is often entirely covered with the more precious metal and the intervening spaces are generally filled with a black bituminous composition.

In about 1255, possibly as a result of the Mongol invasion, the art suffered a brief eclipse and probably about this time many craftsmen emigrated to

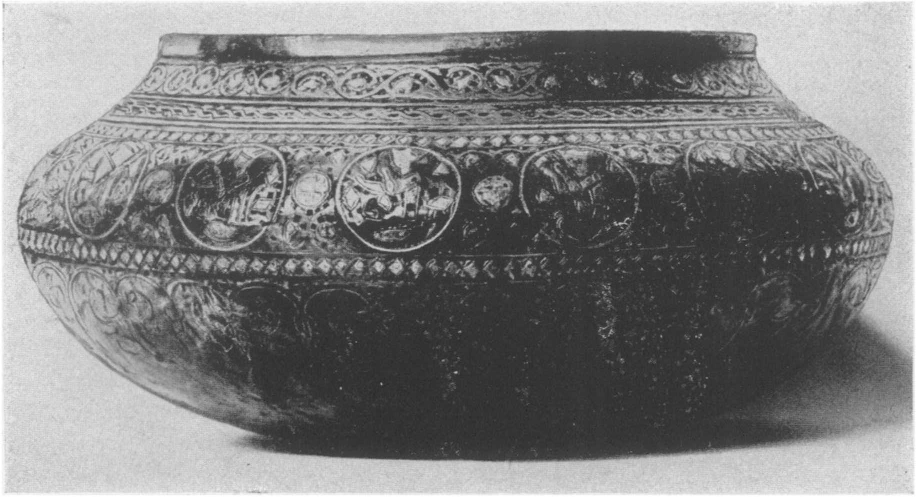


DETAIL OF MOSŪL WORK.
(99–758)

Syria and Egypt, where their art underwent certain modifications in harmony with the tastes prevalent in those lands.

In Syria, where Damascus and Aleppo were the chief centers, during the fourteenth century, men and animals disappeared from the decorative repertoire of the metalworker but birds remained and *rosasces* filled with flowers, such as are common in the tile work and pottery of this part of the East, became the predominant feature of Syrian work. The Damascene craftsmen also probably inspired the use of gold in the inlay, this is known to have been a favorite method of theirs.

By far the most numerous of these works of art are Egyptian and are classed as Mamlūk, the name of the magnificent Sultans who governed that country from 1258 to 1507 A. D. They are the most easily dated from the inscriptions which form the chief feature of their decoration. These usually vaunt the titles and achievements of the Sultans or their courtiers. The human figure does not appear in Mamlūk work except on pieces used in astrology, but birds, ducks in especial, and fish often occur.



Mosūl Work, Perhaps XIV Century
Brass, Engraved and Inlaid with Silver.
(99–758)

Cairo was the capital where most of it was made and the art survives there to the present day.

Most of it now is merely engraved work, though, since the influx of winter visitors into Egypt, inlaid work of considerable merit is produced in the Mamlūk style, sometimes very elaborate and inlaid with gold as well as silver.

M. Gaston Migeon, *Conservateur* in the Louvre Museum, who has made exhaustive studies of the arts of the Nearer East, and Mr. Stanley Lane-Poole, the English authority on this subject, agree in general in these classifications, though M. Migeon is far from being so definite in his divisions as Mr. Lane-Poole, admitting frankly that Syrian and Mosūl work are easily to be confused, and that the so-called Yemen (Arabian) is only to be distinguished from Egyptian by the subject-matter of the inscription. Indeed he inclines to the opinion that the Sultans of Yemen obtained their works of art directly from Cairo, some are so inscribed, of which powerful court they were satellites in the fourteenth and fifteenth centuries.

By the fourteenth century Persian metal work, directly descended from that of Mosūl, was in full flower. Figure subjects remained in high favor, but the costumes had become Persian instead of Arab or Mongol. Gold was more and more used there as time went on, and the piercing of the metal leaving the patterns *cjourés* is also a characteristic of Persian work, although it is occasionally to be found in such objects as incense burners of earlier date.

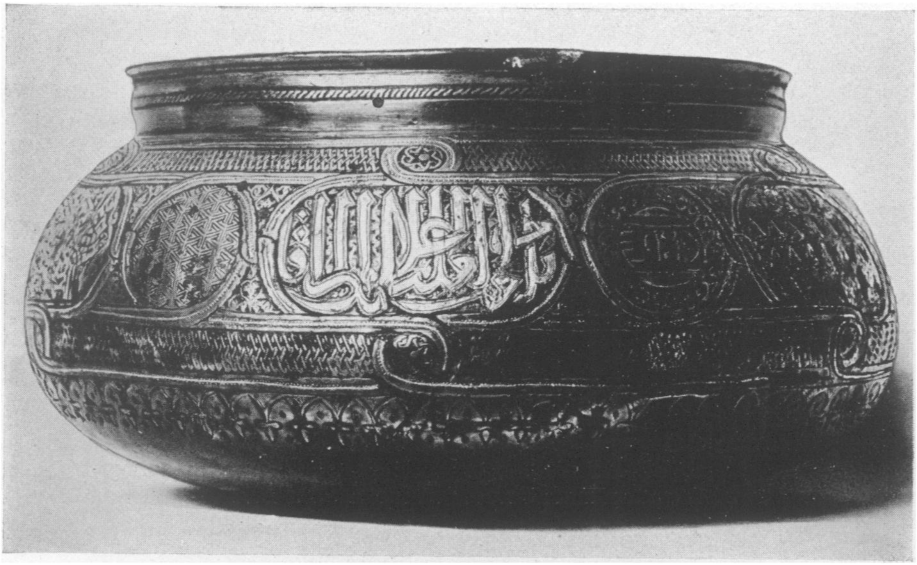
There are several fairly good pieces in the Museum some of them quite modern. Indian inlaid metal work is also represented. It flourished in that country under the magnificent Mogul emperors and though greatly deteriorated has not since died out. It is known there as Keft work; Keft being Arabic for inlaying of all sorts. It was also the name from very ancient times of the port of Egypt on the Red Sea whence traders sailed for the Farther East.

In the sixteenth century the art began to be practiced in Venice chiefly by Oriental workmen whose style, while influencing, was also modified by, the spirit of the Italian Renaissance.

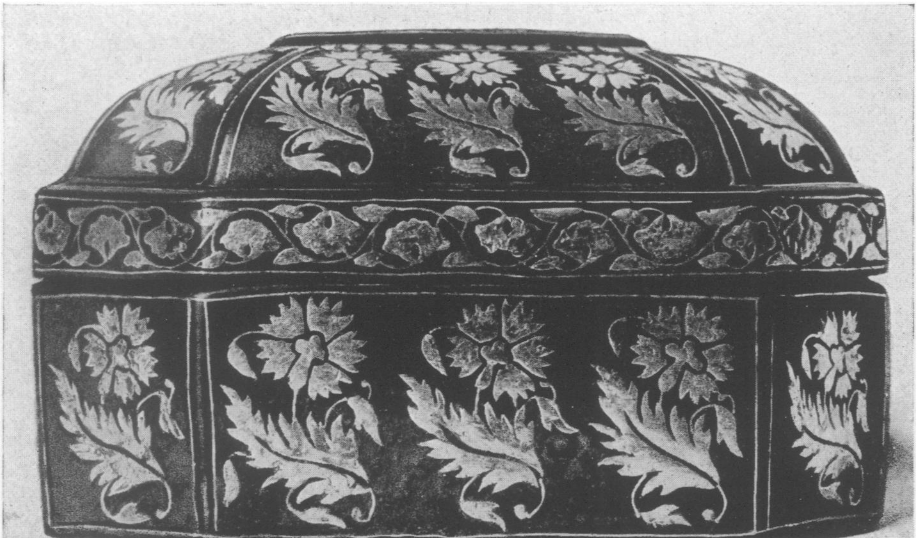
A brief account of the process whereby the beautiful results of the Saracenic metal inlayer were achieved is perhaps the most important part of this paper.

No soldering was employed, in the best period, but the original surface was cut away in planes deepening towards the edges, which were slightly undercut. The silver was then forced into the cavity as nearly as possible to a level with the brass base and the rebated edges burnished down over it. The inlaying of the finer lines, where there was not room for undercutting was achieved by punching a series of notches with an oblong headed instrument, into which notches the silver was pressed with a burnisher of jade or agate.

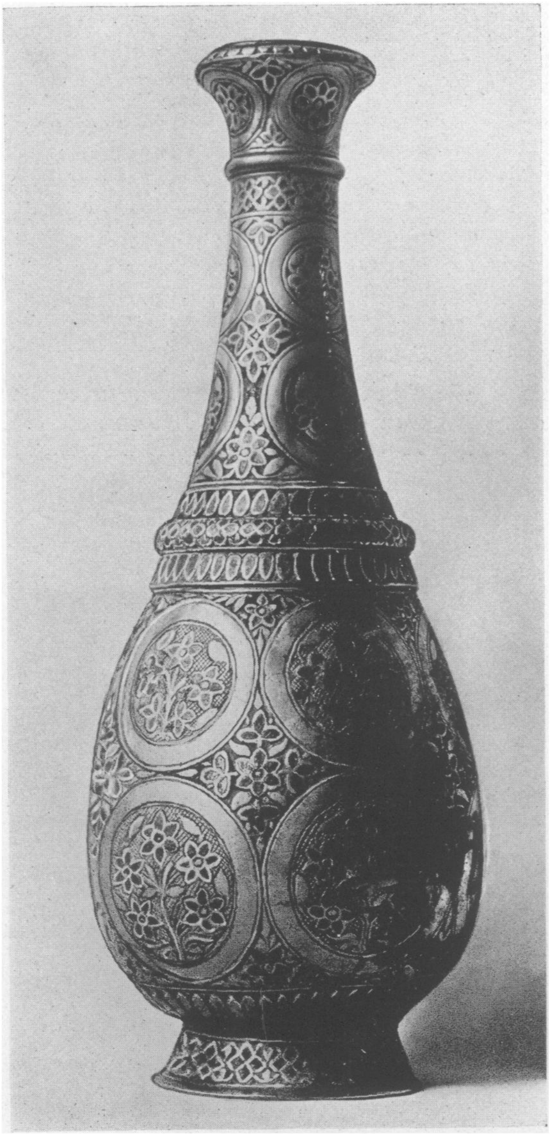
The earliest work was never accomplished by stippling the surface of the cavities with little triangular notches which serve as teeth to hold the inlaid plates down; this process was only used in later times and in Venice when the art spread in the sixteenth century to that semi-oriental city. The modern method is to roughen, either by notches or crosshatching, the entire surface and then to press into these with a burnisher the very thin plates of the precious metals which are cut into the desired shape and subsequently touched up with a graver. A small amount of heat is used to make the gold and silver adhere closely. This is the way in which the modern Russian, Persian, Indian and



Brass, Engraved and Inlaid with Silver.
(93–112)



Indian.
Iron, Inlaid with Silver.
(99–357)



PERSIAN.
BRASS, ENGRAVED AND INLAID WITH SILVER.
(92–700)

Spanish "Damascening," so called, is done; as may be gathered, it is not inlaying at all, but what I prefer to call encrusting.*

The inlaying having been completed, the artist then proceeded to complete, with a graver, every detail of his design, faces and dress of the men, feathers and fur of beasts and birds and every detail of floral and other ornament was delicately and minutely chased on the silver. Everything, except the smooth faces of the letters of the inscriptions in Mamlūk work, was engraved. No portion of the work was slurred over even if it was not likely to be often seen.

Stanley Lane-Poole tells an illuminating story of Mahmūd El-Kurdy, a Saracen artist established in Venice in the sixteenth century, who, when he made use of the stippling process, described above, stippled his notches in graceful scrolls although he knew that they would be immediately concealed by the silver plates they were designed to hold. The accidental loosening of some of these has betrayed the artist's honest work.

Nos. 99–758 and 99–357 in the Bloomfield Moore collection and Nos. 93–112 and 92–700 give us some idea of the process I have described though none of them is of the highest excellence and all much later than the best period.

While urging the revival of this exquisite art I would not be understood as advising a slavish imitation of Saracenic ornament in the use of the process. It can be adapted to any style of design and the student must remember, that although the chefs-d'oeuvre of the technique are Saracen, no art is truly living unless it strives to express the spirit of the age in which the artist finds himself.

Besides the examples of this art in the Pennsylvania Museum, there are there and in the School Museum several admirable reproductions of famous pieces from European collections, and at the present time some exceptionally fine specimens on loan in the Museum of the University of Pennsylvania.

H. B.

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* Our lax use of the words Damascene and encrust has been adopted from the French, in which language *Damasquiner* means to make incisions in steel and fill them with gold or silver wire. *Incruster*, meaning literally to encrust, has come to signify any sort of inlay, an obvious perversion of the plain sense of the word, since to encrust is to cover over, while to inlay is to insert into.

The Encyclopædia Britannica gives the same definition of Damascening or Damaskeening, admitting that it is sometimes applied to the production of Damask (i. e. "watered") steel. But, in so defining, it speaks of it as "the art of encrusting gold, silver or copper wire on the surface of iron, steel or bronze," giving then an elaborate description of the process of inlaying. It repeats this misuse of this word in describing Inlaying which it defines as a method of encrusting or otherwise inserting in one material a substance differing therefrom in color or nature. This is a correct description of inlaying but is in no sense encrusting, as has been stated.

The New English and the Century Dictionaries give both "watered" steel and "the art of ornamenting the surface of one metal by inlaying with another" as definitions of Damascening or Damaskeening. The Century quite correctly informs us that in incrusted work in metal the surface is decorated by attaching to it ornaments also in metal.

A new and clearer set of terms is obviously needed to describe these various processes of decorating one metal with another.

It is always dangerous to try to replace traditional terms, even if incorrectly used by those which more accurately describe the subject under discussion, otherwise I should be disposed to suggest that Damascening be limited to the production of laminated or watered steel, since that is described by no other single word: the Inlaying of metal in metal is lucidly definite.

Encrusting could then be reserved for the process of applying one metal on another without inlay, and Plating would continue to express the entire covering of one surface with another. In this way the present confusion would be relieved by an accurate definition of the processes involved.